

### REMARKS

Applicants appreciate the thorough examination of the application as evidenced by the Office Action dated June 19, 2006 (the "Action"). In particular, Applicants appreciate the Examiner's indication that Claim 10 would be allowable if rewritten in independent form. However, Applicants submit that independent Claims 1, 11 and 12 are patentable over the cited prior art, and Applicants request further consideration of the application in view of the comments that follow.

It is noted that Claims 1, 11 and 12 have been amended as suggested by the Examiner on page 2 of the Action to overcome certain informalities. Accordingly, Applicants request that the claim objections on page 2 of the Action be withdrawn.

Claims 1-9 and 11-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,236,368 to Johson ("Johson"). Independent Claim 1 recites an antenna device for a portable device including:

an antenna loop of conducting material having first and second ends connected to a radio frequency (RF) circuitry and a ground plane of a printed circuit board (PCB), respectively, the antenna loop being positioned opposite the ground plane; and a ground plane extender positioned at a first side of the PCB and in a longitudinal extension of the ground plane.

Applicants submit that at least the above-underlined features recited in Claim 1 are not disclosed by Johson.

The antenna loop as recited in Claim 1 has a first end that is connected to the ground plane of a printed circuit board. However, as shown in **Figure 6** of Johson, the loop conductor element **28** is connected to a coax cable **48** that passes through the ground plane **32**. Therefore, the loop conductor element **28** of Johson is not connected to the ground plane of a printed circuit board as recited in Claim 1.

In addition, Johson does not teach or suggest a ground plane extender positioned in a longitudinal extension of the ground plane. The Action states that a ground plate extender is disclosed in column 3, lines 60-65 of Johson. However, the cited portion of Johson merely

states that the ground plane 32 may be a conductive portion of the handset housing, the battery pack 18 or portion thereof, or a separate conductive panel. Johson further states that the ground plane can be the circuit board or other conductive element. *See* Abstract.

Therefore, Johson merely discusses that the ground plane can be provided in the circuit board or by another conductive element. Nothing in Johson teaches or suggests a ground plane of a printed circuit board and a ground plane extender positioned at a first side of the PCB and in a longitudinal extension of the ground plane.

For at least these reasons, Johson does not teach or suggest all of the recitations of Claim 1 and cannot anticipate Claim 1. Claims 11 and 12 contain recitations similar to Claim 1 and are patentable for at least for the reasons discussed with respect to Claim 1. Claims 2-10 and 13-15 are patentable at least per the patentability of the claims from which they depend.

In addition, Claims 13, 15 and 16 are separately patentable for at least the following reasons. Support for new Claims 15 and 16 can be found, for example, in **Figure 2-4** of the present application.

Claim 13 recites that the device is a headset. The Action takes the position that a headset is disclosed in Johson at column 1, lines 15-19. However, column 1, lines 15-19 of Johson merely discuss that the loop antenna of Johson can be used for a hand-held radio frequency transceiver, such as a cellular telephone or PCS device. The cited portion of Johson makes no mention of a headset, and a cellular telephone as shown in **Figure 1** and discussed in the cited portion of Johson is typically much larger than a headset. Exemplary headset dimensions are disclosed on page 11 of the current specification.

Claim 15 recites that the first and second ends of the antenna loop comprise a planar portion configured to connect to the radio frequency (RF) circuitry and the ground plane of the printed circuit board (PCB). As shown in Johson, the ends of the loop connector element 28 are connected to the coax cable 48 by wire feed point connections 44, 46 (*See Figure 4*). Therefore, Claim 15 is separately patentable over Johson for at least these reasons.

Claim 16 recites that the first and second ends of the antenna loop are directly connected to the radio frequency (RF) circuitry and the ground plane of the printed circuit

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board (PCB). The loop connector element **28** of Johson is connected to feed point connections **44, 46**, which are in turn connected to a coax cable **48**. Therefore, Claim 16 is separately patentable over Johson for at least these reasons.

### CONCLUSION

Accordingly, Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any small matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,

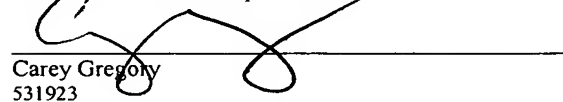


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